Patent claims

(Amended 02.02.2000)

1. Method for setting up telephone-to-telephone calls using telephones connected to a PSTN/ISDN access network and using a separate network, especially Internet as a substantial by-pass network, special telephone gateways (GW) forming bridges between the access network and said by-pass network, and connections being established between the user telephones (A,B) and the gateways (GW) that bridge the call,
c h a r a c t e r i z e d i n that the calling party (A) in a one-step procedure dials a by-pass network service prefix together with the number of the called party (B), i.e. a prefix + B-number, and more specifically an IN service prefix,
that said by-pass network service prefix is analysed to identify the relevant IN service for thereby routing the call to an IN node which can execute this IN service,
the IN service establishes the call to an appropriate gateway (GW), which means that the gateway is made service transparent to the calling party (A).

2. Method as claimed in claim 1,
c h a r a c t e r i z e d i n that said IN service is arranged to find the most appropriate, e.g. the closest gateway (GW) by analyzing the caller's number (A), and/or possibly route the call to an alternative gateway if the closest is busy, etc.

3. Method as claimed in claim 2,
c h a r a c t e r i z e d i n that after the IN service has established the call (A) to the most appropriate gateway (GW), (GWa) there is in the call set-up included the associated gateway number (GWa) as destination number, as well as the caller number (A) and the callee number (B).

4. Method as claimed in claim 3, characterized in that address analysis is carried out in the gateway (GWa) to which the call has been routed.

5. Method as claimed in claim 4, characterized in that number analysis is coupled with other services, for example short numbers for virtual network, and UPT.

6. Method as claimed in any of the preceding claims, characterized in that a process for finding the most appropriate gateway for any terminating callee number (B) is carried out in the intelligent network (IN), i.e. by finding the E.164 number to an appropriate gateway (GWb), as well as the IP (Internet Protocol) address to the gateway (GWb).

7. Method as claimed in claim 6, characterized in that there is maintained an updated list of gateways in the by-pass network, as well as a list of respective IP-addresses and the respective area code(s).

8. Method as claimed in any of the preceding claims, characterized in that the area code of the number (B) of the callee is used to find the IP-address of the most appropriate callee gateway (GWb), for example the closest gateway thereof.

9. Method as claimed in any of the preceding claims, characterized in that in the call setup from the intelligent network (IN) towards the access gateway (GWa) the IP-address of the terminal gateway (GWb) is included, so that the access gateway (GWa) can use the received terminal gateway (GWb) IP-address in the remaining call handling process.

10. Method as claimed in any of the preceding claims, characterized in that the most appropriate gateway (GWa) or gateways (GWa, GWb) is/are selected according to the quality of service (QoS) required, or possibly according to other criteria, for example tariff, availability, etc.